AECOM

AECOM Technical Services, Inc.
5925 Carnegie Boulevard
Suite 370
Charlotte, North Carolina 28209
www.aecom.com

704 553 6150 telephone
704 553 6151 fax

October 5, 2016

James Brown, Hydrogeologist
North Carolina Department of Environmental Quality
Division of Waste Management
Underground Storage Tanks Section
Fayetteville Regional Office
Systel Building, Suite 714
225 Green Street
Fayetteville, North Carolina 28301

RE: UST Closure Report
Motiva Enterprises LLC – Fayetteville Bulk Terminal
1274 Shaw Mill Road
Fayetteville, Cumberland County, North Carolina
Facility ID # 00-0-0000011481

Dear Mr. Brown:

AECOM Technical Services, Inc., on behalf of Motiva Enterprises LLC, is submitting this *UST Closure Report* for the above referenced site. The report provides details regarding the in-place closure of UST #8. If you have any questions regarding this submittal, please contact me at 704-499-6205 or brandt.morrow@aecom.com.

Sincerely,

AECOM Technical Services, Inc.

Brandt Morrow, PG
Project Manager

cc: Motiva Enterprises LLC (electronic)
John Hogue, AECOM (electronic)
Project File (electronic)

Enclosure

UST CLOSURE REPORT - 2016

Fayetteville Bulk Terminal
1274 Shaw Mill Road
Fayetteville, Cumberland County, North Carolina 28311
Facility ID – 00-0-0000011481

Prepared for:

MOTIVA ENTERPRISES LLC

Motiva Enterprises LLC
410 Tom Sadler Road
Charlotte, North Carolina 28214

October 5, 2016

Prepared by:

AECOM

5925 Carnegie Boulevard, Suite 370
Charlotte, North Carolina 28209

Project No. 60509715

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This report was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my thorough inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Brandt Morrow	2298	10/5/16
Project Manager	NC License No.	Date
AECOM		

1.0 INTRODUCTION

AECOM Technical Services, Inc. (AECOM) was retained by Motiva Enterprises, LLC (Motiva) to oversee the closure of one vapor knockout underground storage tank (UST) at the Motiva Fayetteville Bulk Terminal (site), located at 1274 Shaw Mill Road, Fayetteville, Cumberland County, North Carolina (**Figure 1**). This report documents the UST closure activities and has been prepared generally following the North Carolina Department of Environmental Quality (NCDEQ) UST-12 format.

2.0 GENERAL INFORMATION

2.1 Contacts

The following list identifies the key contacts involved with closure of the UST:

1.	UST Owner	Motiva Enterprises, LLC PO Box 4369 Houston, Texas 77210 713.277.8000
2.	Property Owner	Motiva Enterprises, LLC PO Box 4369 Houston, Texas 77210 713.277.8000
3.	Primary Contact Person	Otto P. Muha Motiva Enterprises, LLC Carolinas Complex 2232 Ten Ten Road Apex, North Carolina 27539 919.387.0484
4.	Primary Consultant	AECOM 5925 Carnegie Boulevard, Suite 370 Charlotte, North Carolina 28209 704.553.6150
5.	Closure Subcontractor	Contaminant Control, Inc. (CCI) 3434 Black and Decker Road Hope Mills, North Carolina 28348 910.484.7000

6.	Drilling Subcontractor	South Atlantic Environmental Drilling and Construction Company (SAEDACCO) 9088 Northfield Drive Fort Mill, South Carolina 29707 803.548.2180
7.	Analytical Laboratory	ENCO Laboratories, Inc. (ENCO) 102-A Woodwinds Industrial Court Cary, North Carolina 27511 919.467.3090

2.2 Site Characteristics

2.2.1 UST Information

According to the UST database, the vapor knockout UST was installed January 1, 1987. According to site personnel, the UST was previously used to receive vapors and condensate displaced from product transfer trucks during loading. As each truck's tank filled, displaced vapor was conveyed through piping from the truck tank to the vapor knockout UST. When a high-liquid alarm was tripped, condensate liquid would be transferred from the vapor knockout UST to an oil-water separator. Per site personnel, the UST was not used to store product and was last used approximately 10 years ago.

The 2,000-gallon steel UST was approximately five (5) feet in diameter and twelve (12) feet long. The UST was approximately four (4) feet below ground surface, located beneath a concrete pad with an approximate dimension of nine (9) feet by twenty (20) feet. The UST interior was accessed via a 24-inch manhole at the northeastern end of the UST and a 2.5-inch measuring port at the southwestern end of the UST. The UST was permanently closed in-place with non-expanding foam on August 11, 2016.

2.2.2 Facility Status

According to Cumberland County tax records, Motiva purchased the site property in 1998. The facility is an active gasoline bulk storage and distribution terminal. The site includes an office building, a three-lane tanker-truck loading rack, seven above-ground storage tanks (ASTs) and associated piping and appurtenances. The site historically has a documented diesel release of approximately 39,000 gallons from AST TK-3 in 1983. The site was assigned incident number 9383. A site map is included as **Figure 2**.

2.2.3 Surrounding Property

The surrounding area is a mix of residential, commercial, and industrial properties in a relatively low traffic area. A receptor survey was conducted in August 2002 which noted several water

supply wells within 1,500 feet of the site. However, municipal water is available in the area. There are no surface water bodies or sensitive ecosystems within 500 feet of the site.

2.2.4 Site Setting

According to the Geologic Map of North Carolina the site is located within the Coastal Plain Region. Bedrock is the area is Cretaceous in age and is characterized as sandstone and mudstone as part of the Middendorf formation. The sandstone/mudstone is classified as gray to pale gray with an orange cast, mottled, iron-cemented concretions and cross-bedding are common, and beds are laterally discontinuous. The site is approximately 8.26 acres in size. The ground surface at the site is paved or covered with gravel. Beneath the gravel layer, subsurface soils encountered at the site were generally described as gray to brown, fine-coarse grained, loose sands. Bedrock and groundwater were not encountered in any site boring during UST closure activities.

3.0 UST CLOSURE PROCEDURES

3.1 Preparation for Closure

Notice of UST closure activities was provided to the NCDEQ Fayetteville Regional Office on July 6, 2016, by submitting a UST-3, Notice of Intent: UST Permanent Closure or Change-in-Service form (**Appendix A**) via electronic delivery. The UST-3 form was prepared based on available information at the time of submittal. A request to abandon the UST in-place was submitted and approved by NCDEQ on July 7, 2016. Justification for in-place abandonment is outlined in that submittal which is included in **Appendix A**.

AECOM contacted NC One-Call and a private utility locating subcontractor to identify subsurface utilities at the site prior to closure soil sampling activities. CCI contacted the appropriate Cumberland County agencies prior to the start of work.

3.2 Closure Sample Collection

Closure soil samples were collected on July 14, 2016. A North Carolina certified well driller, SAEDACCO, was subcontracted to advance closure soil borings. Discrete soil samples were collected continuously to 11 feet below ground surface (ft bgs) on the northern, eastern, and southern sides of the UST. Soil borings were advanced via hand auger to 6 ft bgs and then via Geoprobe™ direct push technology to 11 ft bgs. Acetate liners were used inside clean rods for each borehole.

Soils were screened in the field using a photoionization detector (PID). The PID was calibrated prior to sampling activities using 100 parts per million (ppm) isobutylene calibration gas, according to the manufacturer's specifications. Samples were placed in re-sealable bags and the headspace within the bag was allowed to equilibrate for approximately 5 to 10 minutes. The

probe of the PID was then inserted into the headspace of the bag and the concentration of volatile vapors present in the headspace was recorded in the field log book, along with a general soil description. Select photographs taken during the closure activities are presented in **Appendix B**.

No evidence of impacts to soil was observed, based on olfactory indicators and field observations of samples collected from around the UST. All PID readings registered 0.0 parts per million.

3.3 Soil Sampling Locations and Sampling Procedures

A total of four closure soil samples were collected at the site during the abandonment of the vapor knockout UST. Closure samples were collected at 11 ft bgs from the locations shown on **Figure 3**. The western side of the UST was not accessible for soil sample collection due to the presence of above and below ground piping. Additionally, sample locations were adjusted based on underground utilities and obstructions.

The samples were collected in laboratory-supplied glassware and labeled with the sample location information, including date, time of collection, and requested analyses. Samples were then placed on ice in an insulated cooler. Samples were delivered directly to ENCO by AECOM personnel under chain-of-custody procedures. Quality control samples included a trip blank submitted in each cooler of samples. All samples for laboratory analysis were collected using NCDEQ approved methods. After sample collection, soil boring locations were properly abandoned with bentonite chips.

3.4 Soil Sampling Results

Soil samples were analyzed by United States Environmental Protection Agency (USEPA) Method 8015C for gasoline range organics (GRO). ENCO holds North Carolina certification number 591.

GRO was not detected above laboratory method detection limits in all soil samples collected. A copy of the laboratory analytical report is provided in **Appendix C**.

3.5 Residual Material Removed

On August 11, 2016, prior to abandonment in-place, the UST was thoroughly pressure washed and a vacuum truck was used to remove residual liquids contained in the UST. The UST was then monitored for vapors using an explosimeter that measures the lower explosive limit (LEL) of the vapors and percentage of oxygen. The local fire marshal instructed CCI that their presence was not required during the monitoring of UST vapors and UST closure activities.

Rinsate and residual liquids pumped from the UST were disposed of in the facility's onsite oil-water separator system. The amount of liquid removed was minimal.

3.6 UST Abandonment

After the UST had been rinsed and liquids were removed, non-expanding foam was pumped into the UST. The UST was filled from the bottom up using an injection-type nozzle with an extension to reach all the way into the UST. The southwest half of the UST was filled first through the 2.5-inch measuring port and the northeastern half of the UST was filled via the 24-inch manhole. Both UST access points were filled completely so that the foam surface was flush with the opening. All gaskets, covers, and bolts were replaced on UST openings following foam placement. The concrete pad covering the UST was unaffected by UST abandonment activities. The gravel surface around the UST area was smoothed to original condition.

4.0 SUMMARY

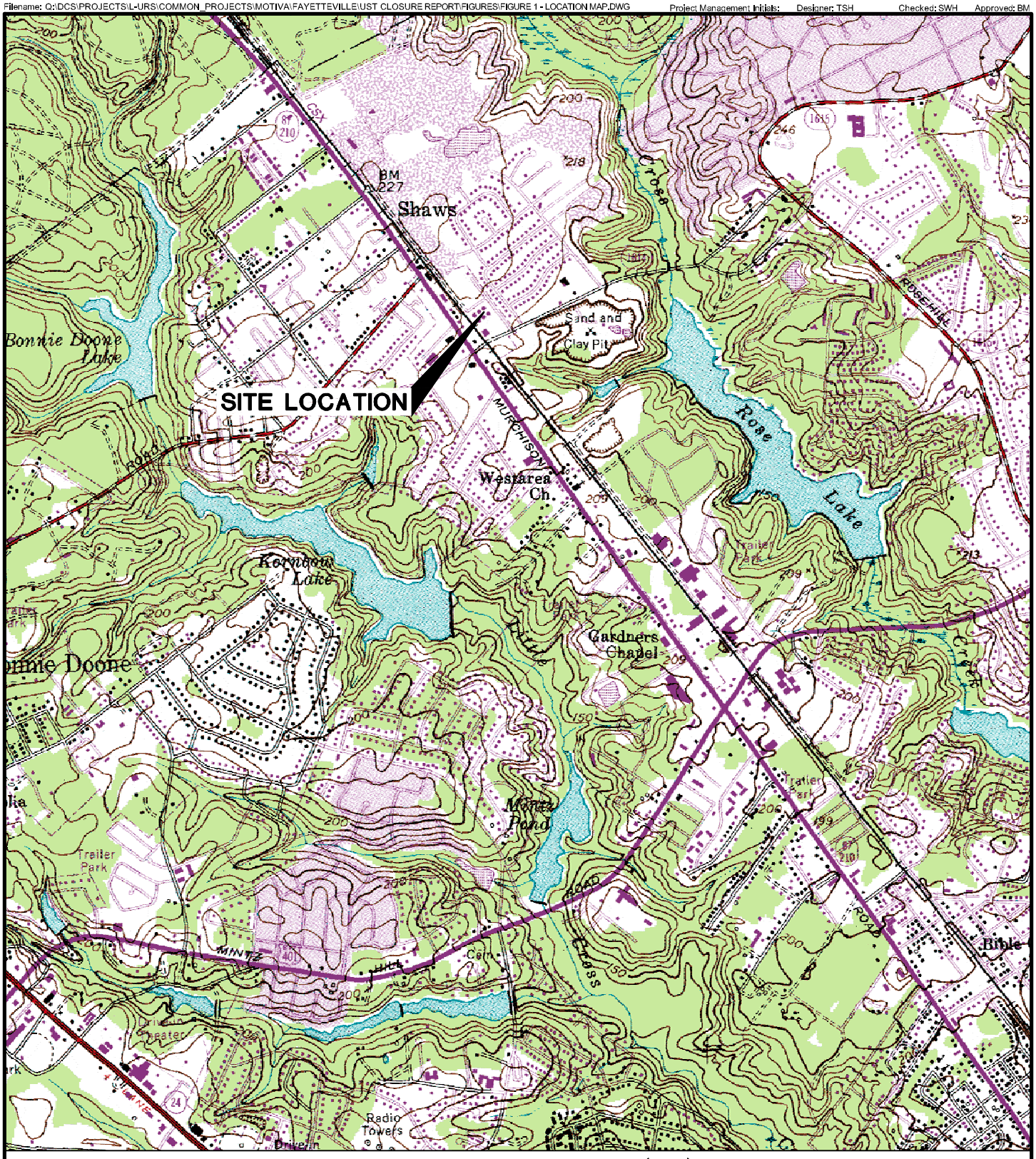
One vapor knockout UST was permanently closed in-place at the site. Closure activities were performed on July 14, 2016 and August 11, 2016, in general accordance with the NCDEQ policy and procedures.

During closure soil sampling and abandonment activities, field observations and field screening did not indicate the presence of petroleum-impacts to surficial or subsurface soils adjacent to the UST. Laboratory analytical results confirmed the absence of GRO in soil samples collected from around the UST above the NCDEQ action level. A groundwater monitoring well was not installed adjacent to the vapor knockout UST per NCDEQ guidance because: 1) closure soil data suggests that it is not a contributing source to groundwater 2) data from the 2012 annual groundwater monitoring report suggests that groundwater in the general vicinity (monitoring well GT-11) of the vapor knockout UST is impacted by the historical diesel release.

Provided these results, no further action should be necessary regarding the vapor knockout UST.

FIGURES

Filename: Q:\DCS\PROJECTS\L-URS\COMMON_PROJECTS\MOTIVA\FAYETTEVILLE\UST CLOSURE REPORT\FIGURES\FIGURE 1 - LOCATION MAP.DWG Project Management Initials: Designer: TSH Checked: SWH Approved: BM



FAYETTEVILLE, NC – USGS TOPOGRAPHIC QUADRANGLE (1987)

QUADRANGLE LOCATION

SCALE IN FEET

0 2000

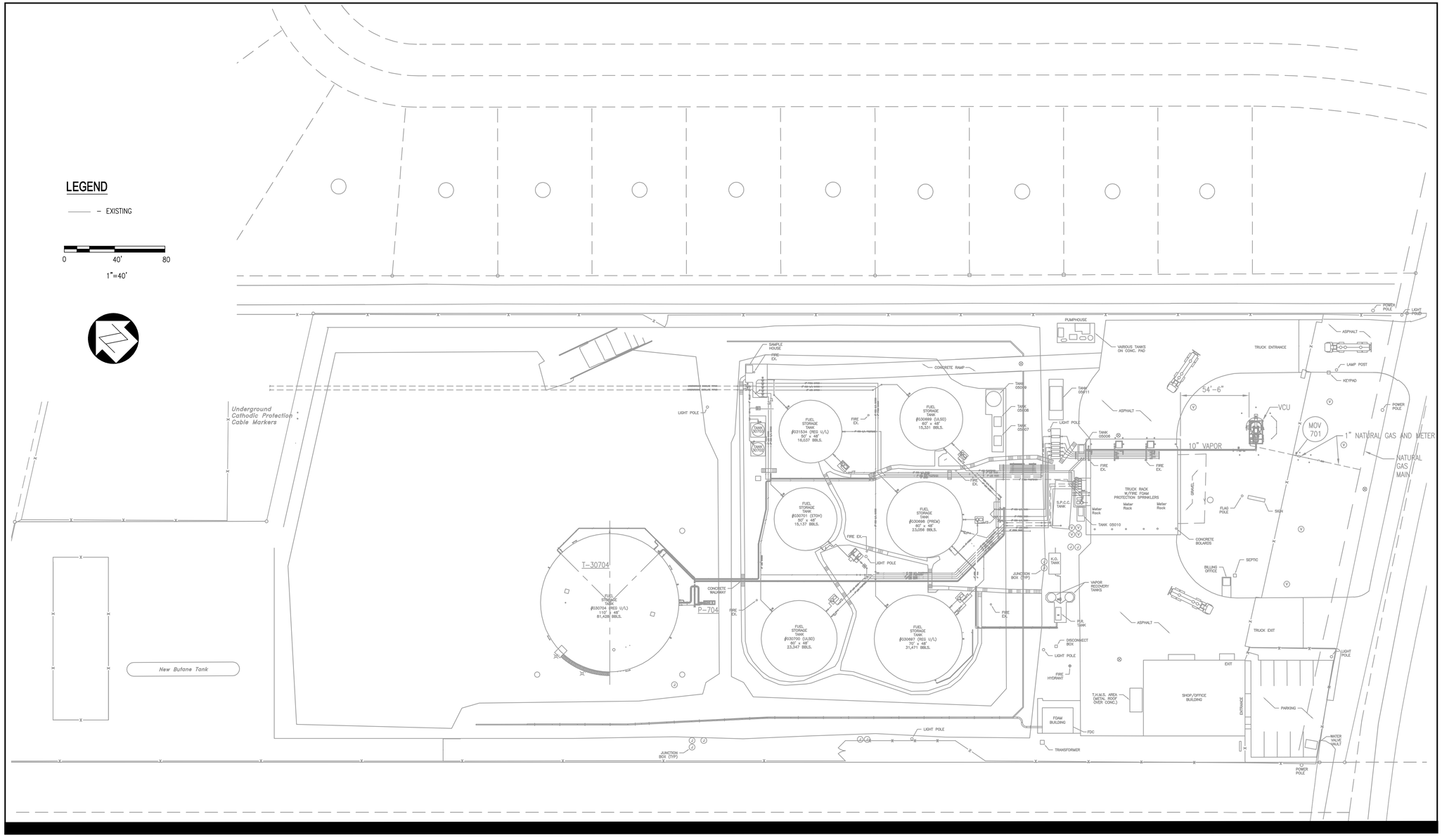
N

UST CLOSURE REPORT - 2016
MOTIVA - FAYETTEVILLE BULK TERMINAL
FAYETTEVILLE, NORTH CAROLINA
Project No.: 60509715 Date: 2016-08-24

SITE LOCATION MAP

AECOM

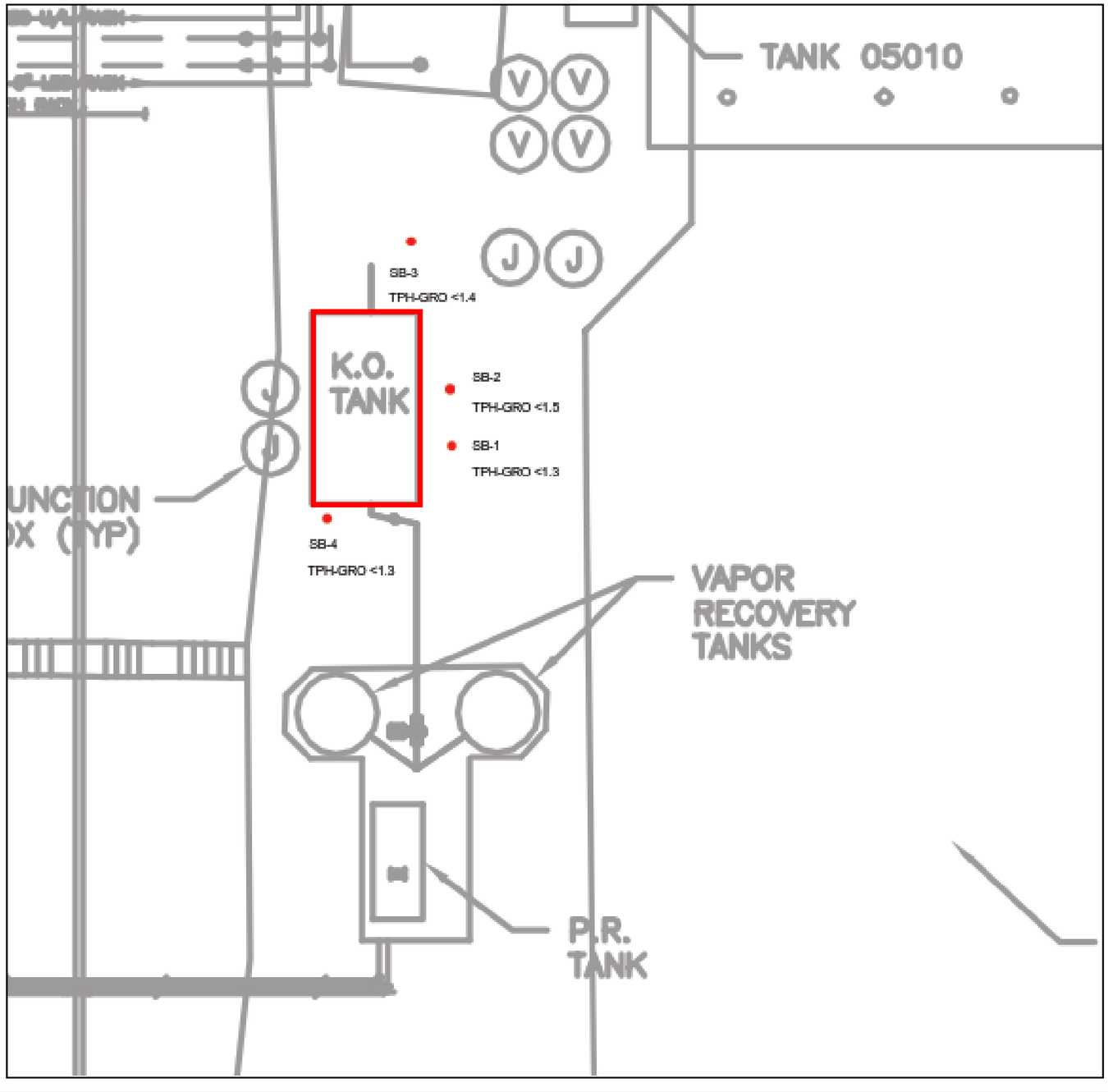
Figure: 1



UST CLOSURE REPORT - 2016
MOTIVA - FAYETTEVILLE BULK TERMINAL
FAYETTEVILLE, NORTH CAROLINA
Project No.: 60509715 Date: 2016-08-24

SITE MAP

AECOM
Figure: 2



LEGEND

- CLOSURE SAMPLE
- UST AREA

0 10

APPROX. SCALE, ft.

NOTES:

1. NCDEQ ACTION LEVEL IS 10 mg/kg
2. RESULTS SHOWN ARE IN mg/kg
3. ALL SAMPLES WERE COLLECTED AT 11 ft BGS

UST CLOSURE REPORT - 2016
MOTIVA - FAYETTEVILLE BULK TERMINAL
FAYETTEVILLE, NORTH CAROLINA
Project No.: 60509715 Date: 2016-08-24

CLOSURE SAMPLE LOCATIONS

AECOM

Figure: 3

APPENDIX A

SUBMITTED FORMS

AECOM Technical Services, Inc. 704-522-0330 telephone
6000 Fairview Road, Suite 200 704-522-0063 fax
Charlotte, North Carolina 28210
www.aecom.com

July 7, 2016

Mr. James Brown, Incident Manager
UST Section, Corrective Action Branch
North Carolina Department of Environmental Quality
Fayetteville Regional Office
Systel Building, Suite 714
225 Green Street
Fayetteville, North Carolina 28301

Request for UST Closure "Abandonment in Place"
Motiva Enterprises LLC – Fayetteville Bulk Terminal
992 Shaw Mill Road
Fayetteville, Cumberland County, North Carolina
Facility ID # 00-0-0000011481

Dear Mr. Brown:

AECOM Technical Services, Inc., on behalf of Motiva Enterprises LLC, is submitting this request to abandon UST # 8 (2,000 gallons), at the above referenced facility, in place. Motiva wishes to close UST # 8 in place due to its location which is directly adjacent to the active fuel loading rack and other above-ground piping and infrastructure. Underground fuel lines and a significant amount of underground utilities are also present in the vicinity of the UST. In addition, given its location, abandonment by removal poses the risk of affecting ongoing facility operations. Abandonment in place is the safest and most cost effective way to obtain closure for UST # 8.

If you have any questions regarding this submittal, please contact me at 704-716-0745 or brandt.morrow@aecom.com.

Sincerely,

AECOM Technical Services, Inc.

Brandt Morrow, PG
Project Manager

Cc: John Hogue – AECOM

Enclosure

Waste Management
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

MICHAEL SCOTT
Director

Approval for In-Place Closure of an Underground Storage Tank

Date: July 7, 2016

Subject:

Site Name (if any): Motiva Enterprises LLC – Fayetteville Bulk Terminal

Address (Street, City, Zip Code): 992 Shaw Mill Road

Cumberland County, Fayetteville, North Carolina

Facility Number (if applicable): 00-0-0000011481

On this day, I, James W. Brown, approve in-place closure of the tank identified as UST #8 (2,000 gallons) and located at the subject site, as the tank is determined by me to be inaccessible.

Hydrogeologist
Fayetteville Regional Office
UST Section, Division of Waste Management, NCDEQ

Fayetteville Regional Office | 225 Green Street | Suite 714 | Systel Building | Fayetteville, NC 28301 | (910) 433-3300

UST-3 Notice of Intent: UST Permanent Closure or Change-in-Service

Return completed form to:
The DWM Regional Office located in the area where the facility is located. Send a copy to the Central Office in Raleigh so that the status of the tank may be changed to "PERMANENTLY CLOSED" and your tank fee account can be closed out.
SEE MAP ON THE BACK OF THIS FORM FOR THE CENTRAL AND REGIONAL OFFICE ADDRESSES.

STATE USE ONLY
I.D. #_____
Date Received_____

INSTRUCTIONS (READ THIS FIRST)

Complete and return at least **thirty (30) days** prior to closure or change-in-service activities. If a Professional Engineer (P.E.) or a Licensed Geologist (L.G.) provides supervision for closure or change-in-service site assessment activities and signs and seals all closure reports then at least a **five (5) working days** notice is acceptable.

Completed UST closure or change-in-service site assessment reports, along with a copy of the UST-2 form, should be submitted to the appropriate Division of Waste Management (DWM) Regional Office within thirty (30) days following closure activities. The UST-2 form should also be submitted to the Central Office in Raleigh so that the status of the tanks may be changed to permanently closed and your tank fee account can be closed out.

UST closure and change-in-service site assessments must be completed in accordance with the latest version of the *Guidelines for Tank Closure*. The *Guidelines for Tank Closure* can be obtained at www.wastenotnc.org.

You must make sure that USTs removed from your property are disposed of properly. When choosing a closure contractor, ask where the tank(s) will be taken for disposal. Usually, USTs are cleaned and cut up for scrap metal. This is dangerous work and must be performed by a qualified company. Tanks disposed of illegally in fields or other dumpsites can leak petroleum products and sludge into the environment. If your tanks are disposed of improperly, you could be held responsible for the cleanup of any environmental damage that occurs.

I. OWNERSHIP OF TANKS

Owner Name (Corporation, Individual, Public Agency, or Other Entity) Motiva Enterprises LLC	
Street Address 410 Tom Sadler Road	
City Charlotte	County Mecklenburg
State NC	Zip Code 28214
Phone Number 704-399-3301	

II. LOCATION

Facility Name or Company Fayetteville Bulk Terminal		
Facility ID # (If known) 00-0-0000011481		
Street Address 1274 Shaw Mill Road		
City Fayetteville	County Cumberland	Zip Code 28311
Phone Number		

III. CONTACT PERSONNEL

Name:	Company Name:	Job Title:	Phone Number:
Brandt Morrow	AECOM	PM	

IV. TANK REMOVAL, CLOSURE IN PLACE, CHANGE-IN SERVICE

1. Contact local fire marshal.
2. Plan entire closure event.
3. Conduct Site Soil Assessment.
4. If removing tanks or closing in place, refer to API Publication 2015 *Cleaning Petroleum Storage Tanks* and 1604 *Removal and Disposal of Used Underground Petroleum Storage Tanks.*
5. Provide a sketch locating piping, tanks and soil sampling locations.
6. Submit a closure report in the format of UST-12 (including the form UST-2) within thirty (30) days following the site investigation.
7. If a release from the tanks has occurred, the site assessment portion of the tank closure must be conducted under the supervision of a P.E. or L.G., with all closure site assessment reports bearing the signature and seal of the P.E. or L.G. If a release has not occurred, the supervision, signature or seal of a P.E. or L.G. is not required.
8. Keep closure records for three (3) years.

V. WORK TO BE PERFORMED BY

Contractor Name: Steve Petersen	Contractor Company Name: Heritage - Crystal Clean LLC		
Address: 5100 Tulane Drive SW	State: GA	Zip Code: 30336	Phone No: 704-507-2168
Primary Consultant Name: Brandt Morrow	Primary Consultant Company Name: AECOM		Consultant Phone No: 704-716-0745

VI. TANKS SCHEDULED FOR CLOSURE OR CHANGE-IN-SERVICE

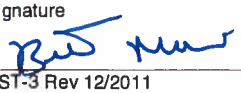
Tank ID No.	Size in Gallons	Last Contents	Proposed Activity: Closure – Removal	Proposed Activity: Closure – Abandonment in Place *	Proposed Activity: Change-In-Service – New Contents Stored
#8	2000	Other Non Petroleum	☐	☒	
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	

* Prior written approval to abandon a tank in place must be received from a DWM Regional Office.

VII. OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE

I understand that I can be held responsible for environmental damage resulting from the improper disposal of my USTs.

Print name and official title: Brandt Morrow PG, PM for AECOM, as an agent for Motiva Enterprises LLC

Signature	Date Signed	SCHEDULED REMOVAL DATE	**Notify your DWM Regional Office 48 hours before this date if scheduled removal date changes**
	07/07/16	07/14/16	

UST-2 Site Investigation Report for Permanent Closure or Change-in-Service of UST

Return completed form to:
The DWM Regional Office located in the area where the facility is located. Send a copy to the Central Office in Raleigh so that the status of the tank may be changed to "PERMANENTLY CLOSED" and your tank fee account can be closed out.
SEE MAP ON THE BACK OF THIS FORM FOR THE CENTRAL AND REGIONAL OFFICE ADDRESSES.

STATE USE ONLY:
I.D. #_____
Date Received_____

INSTRUCTIONS (READ THIS FIRST)

For more than five UST systems you may attach additional forms as needed.

Permanent closure – For permanent closure, complete all sections of this form.

Change-in-service – For change-in-service where UST systems will be converted from containing a regulated substance to storing a non-regulated substance, complete sections I, II, III, IV, and VIII

Effective February 1, 1995, all UST closure/change-in-service reports must be submitted in the format provided in the UST-12 form. UST closure and change-in-services must be completed in accordance with the latest version of the *Guidelines for Tank Closure.* A copy of the UST-12 form and the *Guidelines for Tank Closure* can be obtained at www.wastenotnc.org.

You must make sure that USTs removed from your property are disposed of properly. When choosing a closure contractor, ask where the tank(s) will be taken for disposal. Usually, USTs are cleaned and cut up for scrap metal. This is dangerous work and must be performed by a qualified company. Tanks disposed of illegally in fields or other dumpsites can leak petroleum products and sludge into the environment. If your tanks are disposed of improperly, you could be held responsible for the cleanup of any environmental damage that occurs.

NOTE: If a release from the tank(s) has occurred, the site assessment portion of the tank closure must be conducted under the supervision of a P.E. or L.G., with all closure site assessment reports bearing the signature and seal of the P.E. or L.G.

I. OWNERSHIP OF TANKS

Owner Name (Corporation, Individual, Public Agency, or Other Entity) Motiva Enterprises LLC	
Street Address 410 Tom Sadler Road	
City Charlotte	County Mecklenburg
State NC	Zip Code 28214
Phone Number 704-399-3301	

II. LOCATION OF TANKS

Facility Name or Company Fayetteville Bulk Terminal		
Facility ID # (If known) 0-0-0000011481		
Street Address 1274 Shaw Mill Road		
City Fayetteville	County Cumberland	Zip Code 28311
Phone Number		

III. CONTACT PERSONNEL

Contact for Facility:		Job Title:	Phone. No:
Closure Contractor Name: Mark Vestal	Closure Contractor Company: CCI	Address: 3434 Black Decker Rd, Fayetteville	Phone. No: 910-484-7000
Primary Consultant Name: Brandt Morrow	Primary Consultant Company: AECOM	Address: 6000 Fairview Road, Suite 200	Phone. No: 704-716-0745

IV. UST INFORMATION FOR REGISTERED UST SYSTEMS

V. EXCAVATION CONDITION

Tank ID No.	Size in Gallons	Tank Dimensions	Last Contents	Last Use Date	Permanent Close Date	Change-in-Service Date	Water in excavation		Free product		Notable odor or visible soil contamination	
							Yes	No	Yes	No	Yes	No
8	2000	5' x 12'	Other Non Pe	~2006	08/11/16		☐	☒	☐	☒	☐	☒
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐

VI. UST INFORMATION FOR UNREGISTERED UST SYSTEMS

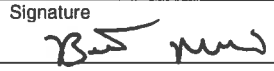
VII. EXCAVATION CONDITION

Tank ID No.	Size in Gallons	Tank Dimensions	Last Contents	Last Use Date	Permanent Close Date	Tank Owner Name *	Water in excavation		Free product		Notable odor or visible soil contamination	
							Yes	No	Yes	No	Yes	No
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐
							☐	☐	☐	☐	☐	☐

* If the tank owner address is different from the one listed in Section I., then enter the street address, city, state, zip code and telephone no. below:

VIII. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true accurate and complete.

Print name and official title of owner or owner's authorized representative	Signature	Date Signed
Brandt Morrow PG, PM for AECOM, as agent for Motiva Enterprises LLC		8/31/2016

APPENDIX B

PHOTOGRAPHS

AECOM

PHOTOGRAPHIC LOG

Site Name:	Site Location:	Project No.
Motiva Fayetteville Bulk Terminal	1274 Shaw Mill Road, Fayetteville, NC	60509715

Photo No.	Date:
1	7-14-16

Direction Photo Taken:

Northwest

Description:

Vapor knockout UST prior to abandonment activities (AST farm in background).

Photo No.	Date:
2	7-14-16

Direction Photo Taken:

Southwest

Description:

Vapor knockout UST prior to abandonment activities.

AECOM

PHOTOGRAPHIC LOG

Site Name:	Site Location:	Project No.
Motiva Fayetteville Bulk Terminal	1274 Shaw Mill Road, Fayetteville, NC	60509715

Photo No.	Date:
3	7-14-16

Direction Photo Taken:

Northwest

Description:

24-inch manhole access of vapor knockout UST prior to abandonment activities.

Photo No.	Date:
4	7-14-16

Direction Photo Taken:

Southwest

Description:

2.5-inch measurement port of vapor knockout UST prior to abandonment activities.

AECOM

PHOTOGRAPHIC LOG

Site Name:	Site Location:	Project No.
Motiva Fayetteville Bulk Terminal	1274 Shaw Mill Road, Fayetteville, NC	60509715

Photo No. 5	Date: 7-14-16

Direction Photo Taken:

East

Description:

Vapor Knockout UST prior to abandonment activities (loading rack in background).

Photo No. 6	Date: 7-14-16

Direction Photo Taken:

Northwest

Description:

Underground piping/utility mark out.

AECOM

PHOTOGRAPHIC LOG

Site Name:	Site Location:	Project No.
Motiva Fayetteville Bulk Terminal	1274 Shaw Mill Road, Fayetteville, NC	60509715

Photo No.	Date:
7	7-14-16

Direction Photo Taken:

Northeast

Description:

Crowded underground piping behind Vapor Knockout UST.

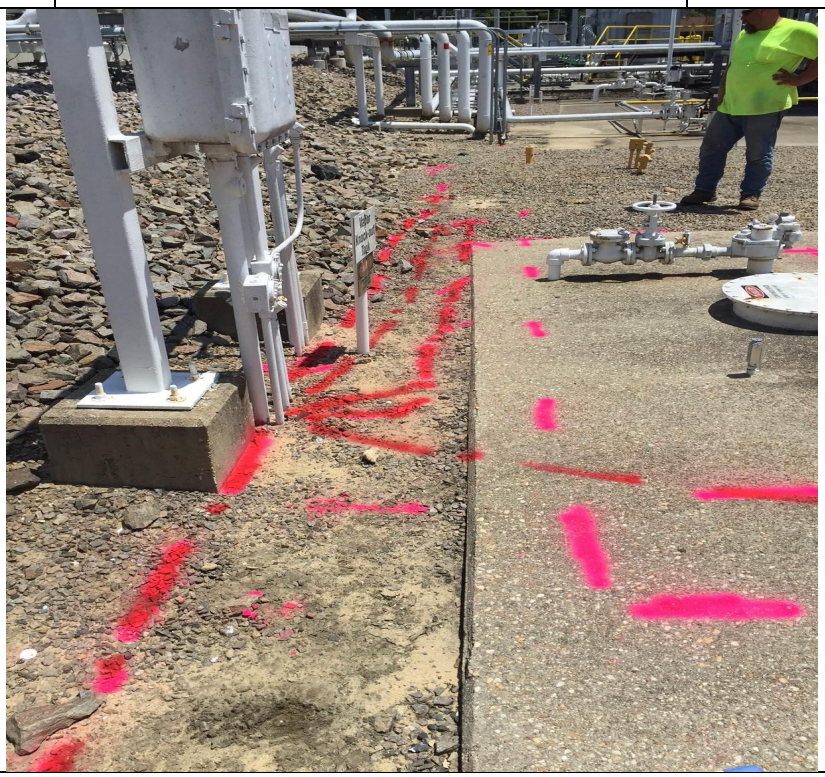


Photo No.	Date:
8	7-14-16

Direction Photo Taken:

Southwest

Description:

Refusal encountered at approximately 3.5 to 5 feet below ground surface at multiple locations northeast of UST.

AECOM

PHOTOGRAPHIC LOG

Site Name:	Site Location:	Project No.
Motiva Fayetteville Bulk Terminal	1274 Shaw Mill Road, Fayetteville, NC	60509715

Photo No.	Date:
9	7-14-16

Direction Photo Taken:

Southwest

Description:

Area surrounding Vapor Knockout UST following soil sampling activities.

Photo No.	Date:
10	8-11-16

Direction Photo Taken:

North

Description:

CCI preparing to clean tank for abandonment in-place.

AECOM

PHOTOGRAPHIC LOG

Site Name:	Site Location:	Project No.
Motiva Fayetteville Bulk Terminal	1274 Shaw Mill Road, Fayetteville, NC	60509715

Photo No.	Date:
11	8-11-16

Direction Photo Taken:

Southeast

Description:

Vacuum truck used for removing residual liquid from UST prior to in-place abandonment.

Photo No.	Date:
12	8-11-16

Direction Photo Taken:

North

Description:

CCI removing cover and gasket of 24-inch manhole tank access.

AECOM

PHOTOGRAPHIC LOG

Site Name:	Site Location:	Project No.
Motiva Fayetteville Bulk Terminal	1274 Shaw Mill Road, Fayetteville, NC	60509715

Photo No. 13	Date: 8-11-16

Direction Photo Taken:

East

Description:

Vacuum truck hose in 24-inch manhole tank access.

Photo No. 14	Date: 8-11-16

Direction Photo Taken:

North

Description:

Pressure washing UST via measuring port.

AECOM

PHOTOGRAPHIC LOG

Site Name:	Site Location:	Project No.
Motiva Fayetteville Bulk Terminal	1274 Shaw Mill Road, Fayetteville, NC	60509715

Photo No.	Date:
15	8-11-16

Direction Photo Taken:

Northwest

Description:

Vapor knockout UST following abandonment in-place.

APPENDIX C

LABORATORY ANALYICAL REPORT

ENCO Laboratories
Accurate. Timely. Responsive. Innovative.

102-A Woodwinds Industrial Court
Cary NC, 27511
Phone: 919.467.3090 FAX: 919.467.3515

Thursday, July 21, 2016
URS Corporation (UR002)
Attn: Martha Meyers-Lee
1600 Perimeter Park Drive S-400
Morrisville, NC 27560

RE: Laboratory Results for
Project Number: 60509715.10000, Project Name/Desc: Motiva Fayetteville Terminal
ENCO Workorder(s): CZ10242

Dear Martha Meyers-Lee,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, July 14, 2016.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Cary. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Stephanie Franz

Project Manager

Enclosure(s)

PROJECT NARRATIVE

Date: 21 July 2016
Client: URS Corporation (UR002)
Project: Motiva Fayetteville Terminal
Lab ID: CZ10242

Overview

Environmental Conservation Laboratories, Inc. (ENCO) analyzed all submitted samples in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling by ENCO are discussed in the QC Remarks section below.

Quality Control Samples

No Comments

Quality Control Remarks

No Comments

Other Comments

Weight/Volumes used for the submitted analyses:

ID	GRO	Dry Weight Correction
SB-1	5.54 g	5 g
SB-2	5.27 g	5 g
SB-3	5.58 g	5 g
SB-4	5.76 g	5 g
Trip Blank	5 mL	n/a

The analytical data presented in this report are consistent with the methods as referenced in the analytical report. Any exceptions or deviations are noted in the QC remarks section of this narrative or in the Flags/Notes and Definitions section of the report.

Released By:
Environmental Conservation Laboratories, Inc.

Stephanie Franz
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: SB-1 **Lab ID: CZ10242-01** **Sampled: 07/14/16 13:35** **Received: 07/14/16 16:15**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8015C	07/28/16	07/14/16 15:00	07/15/16 14:15

Client ID: SB-2 **Lab ID: CZ10242-02** **Sampled: 07/14/16 13:25** **Received: 07/14/16 16:15**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8015C	07/28/16	07/14/16 15:00	07/15/16 14:47

Client ID: SB-3 **Lab ID: CZ10242-03** **Sampled: 07/14/16 14:05** **Received: 07/14/16 16:15**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8015C	07/28/16	07/14/16 15:00	07/15/16 15:18

Client ID: SB-4 **Lab ID: CZ10242-04** **Sampled: 07/14/16 14:30** **Received: 07/14/16 16:15**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8015C	07/28/16	07/14/16 15:00	07/15/16 15:49

Client ID: Trip Blank **Lab ID: CZ10242-05** **Sampled: 07/14/16 13:25** **Received: 07/14/16 16:15**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8015C	07/28/16	07/18/16 12:09	07/19/16 13:34

SAMPLE DETECTION SUMMARY

No positive results detected.

ANALYTICAL RESULTS

Description: SB-1 **Lab Sample ID:** CZ10242-01 **Received:** 07/14/16 16:15
Matrix: Soil **Sampled:** 07/14/16 13:35 **Work Order:** CZ10242
Project: Motiva Fayetteville Terminal **Sampled By:** Client **% Solids:** 97.17

Gasoline Range Organics by GC

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
GRO (C6-C10)^	1.3	U	mg/kg dry	1	1.3	5.1	6G14028	EPA 8015C	07/15/16 14:15	BAM	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
2,5-Dibromotoluene	*9.0*	*1*	*9.29*	*96 %*	*59-168*	*6G14028*	*EPA 8015C*	*07/15/16 14:15*	*BAM*	

Description: SB-2 **Lab Sample ID:** CZ10242-02 **Received:** 07/14/16 16:15
Matrix: Soil **Sampled:** 07/14/16 13:25 **Work Order:** CZ10242
Project: Motiva Fayetteville Terminal **Sampled By:** Client **% Solids:** 94.62

Gasoline Range Organics by GC

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
GRO (C6-C10)^	1.5	U	mg/kg dry	1	1.5	5.8	6G14028	EPA 8015C	07/15/16 14:47	BAM	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
2,5-Dibromotoluene	*9.6*	*1*	*10.0*	*96 %*	*59-168*	*6G14028*	*EPA 8015C*	*07/15/16 14:47*	*BAM*	

Description: SB-3 **Lab Sample ID:** CZ10242-03 **Received:** 07/14/16 16:15
Matrix: Soil **Sampled:** 07/14/16 14:05 **Work Order:** CZ10242
Project: Motiva Fayetteville Terminal **Sampled By:** Client **% Solids:** 90.44

Gasoline Range Organics by GC

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
GRO (C6-C10)^	1.4	U	mg/kg dry	0.896	1.4	5.4	6G14028	EPA 8015C	07/15/16 15:18	BAM	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
2,5-Dibromotoluene	*9.3*	*0.896*	*9.91*	*93 %*	*59-168*	*6G14028*	*EPA 8015C*	*07/15/16 15:18*	*BAM*	

Description: SB-4 **Lab Sample ID:** CZ10242-04 **Received:** 07/14/16 16:15
Matrix: Soil **Sampled:** 07/14/16 14:30 **Work Order:** CZ10242
Project: Motiva Fayetteville Terminal **Sampled By:** Client **% Solids:** 90.51

Gasoline Range Organics by GC

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
GRO (C6-C10)^	1.3	U	mg/kg dry	0.868	1.3	5.3	6G14028	EPA 8015C	07/15/16 15:49	BAM	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
2,5-Dibromotoluene	*8.3*	*0.868*	*9.59*	*86 %*	*59-168*	*6G14028*	*EPA 8015C*	*07/15/16 15:49*	*BAM*	

ANALYTICAL RESULTS

Description: Trip Blank
Matrix: Water
Project: Motiva Fayetteville Terminal

Lab Sample ID: CZ10242-05
Sampled: 07/14/16 13:25
Sampled By: ENCO

Received: 07/14/16 16:15
Work Order: CZ10242

Gasoline Range Organics by GC

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
GRO (C6-C10)^	0.011	U	mg/L	1	0.011	0.055	6G18032	EPA 8015C	07/19/16 13:34	BAM	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
2,5-Dibromotoluene	*0.0833*	*1*	*0.100*	*83 %*	*70-130*	*6G18032*	*EPA 8015C*	*07/19/16 13:34*	*BAM*	

QUALITY CONTROL DATA

Gasoline Range Organics by GC - Quality Control

Batch 6G14028 - EPA 5035

Blank (6G14028-BLK1) Prepared: 07/14/2016 15:00 Analyzed: 07/15/2016 11:39

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
GRO (C6-C10)	1.4	U	5.5	mg/kg wet							
2,5-Dibromotoluene	*10*			*mg/kg wet*	*10.0*		*105*	*59-168*			

LCS (6G14028-BS1) Prepared: 07/14/2016 15:00 Analyzed: 07/15/2016 12:10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
GRO (C6-C10)	51		5.5	mg/kg wet	50.0		101	51-115			
2,5-Dibromotoluene	*12*			*mg/kg wet*	*10.0*		*115*	*59-168*			

Matrix Spike (6G14028-MS1) Prepared: 07/14/2016 15:00 Analyzed: 07/15/2016 12:42

Source: CZ10392-06

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
GRO (C6-C10)	46		5.5	mg/kg wet	50.0	1.4 U	92	45-162			
2,5-Dibromotoluene	*11*			*mg/kg wet*	*10.0*		*111*	*59-168*			

Matrix Spike Dup (6G14028-MSD1) Prepared: 07/14/2016 15:00 Analyzed: 07/15/2016 13:13

Source: CZ10392-06

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
GRO (C6-C10)	47		5.5	mg/kg wet	49.8	1.4 U	95	45-162	2	24	
2,5-Dibromotoluene	*11*			*mg/kg wet*	*9.96*		*110*	*59-168*			

Batch 6G18032 - EPA 5030B

Blank (6G18032-BLK1) Prepared: 07/18/2016 12:09 Analyzed: 07/19/2016 10:58

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
GRO (C6-C10)	0.011	U	0.055	mg/L							
2,5-Dibromotoluene	*0.0855*			*mg/L*	*0.100*		*86*	*70-130*			

LCS (6G18032-BS1) Prepared: 07/18/2016 12:09 Analyzed: 07/19/2016 11:29

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
GRO (C6-C10)	0.405		0.055	mg/L	0.500		81	58-152			
2,5-Dibromotoluene	*0.0875*			*mg/L*	*0.100*		*88*	*70-130*			

Matrix Spike (6G18032-MS1) Prepared: 07/18/2016 12:09 Analyzed: 07/19/2016 12:00

Source: CZ10392-12

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
GRO (C6-C10)	0.410		0.055	mg/L	0.500	0.011 U	82	20-185			
2,5-Dibromotoluene	*0.0968*			*mg/L*	*0.100*		*97*	*70-130*			

QUALITY CONTROL DATA

Gasoline Range Organics by GC - Quality Control

Batch 6G18032 - EPA 5030B - Continued

Matrix Spike Dup (6G18032-MSD1) Prepared: 07/18/2016 12:09 Analyzed: 07/19/2016 12:31

Source: CZ10392-12

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
GRO (C6-C10)	0.432		0.055	mg/L	0.500	0.011 U	86	20-185	5	26	
2,5-Dibromotoluene	*0.0791*			*mg/L*	*0.100*		*79*	*70-130*			

FLAGS/NOTES AND DEFINITIONS

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported value is between the laboratory method detection limit (MDL) and the laboratory method reporting limit (MRL), adjusted for actual sample preparation data and moisture content, where applicable.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
MRL	Method Reporting Limit. The MRL is roughly equivalent to the practical quantitation limit (PQL) and is based on the low point of the calibration curve, when applicable, sample preparation factor, dilution factor, and, in the case of soil samples, moisture content.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a "tentative identification".
P	Greater than 25% concentration difference was observed between the primary and secondary GC column. The lower concentration is reported.

ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD

10775 Central Port Dr.
Orlando, FL 32824
(407) 826-5314 Fax (407) 850-6945

4810 Executive Park Court, Suite 111
Jacksonville, FL 32216-6069
(904) 296-3007 Fax (904) 296-6210

102-A Woodwinds Industrial Ct.
Cary, NC 27511
(919) 467-3090 Fax (919) 467-3515

www.encolabs.com

Page 1 of 1

Client Name: URS Corporation (UR002)	Project Number: 60509715.10000
Address: 1600 Perimeter Park Drive S-400	Project Name/Desc: Motiva Fayetteville Terminal
City/ST/Zip: Morrisville, NC 27560	PO # / Billing Info:
Tel: (919) 461-1519 Fax: (919) 461-1415	Reporting Contact: Martha Meyers-Lee
Sampler(s) Name, Affiliation (Print): ENCO	Billing Contact: Brant Morrow
Sampler(s) Signature:	Site Location / Time Zone: FAYETTEVILLE, NC

Requested Turnaround Times

Note : Rush requests subject to acceptance by the facility

___ Standard

___ Expedited

Due ___/___/___

Lab Workorder: CZ10242

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	%Solids	GRO 8015C	Sample Comments
	Sample Name SB-1	7/14/16	1335	G	SO	3	X	X	
	Sample Name SB-2	↓	1325	↓	SO	3	X	X	
	Sample Name SB-3	↓	1405	↓	SO	3	X	X	
	Sample Name SB-4	7/14/16	1430	G	SO	3	X	X	
	Sample Name				SO	3	X	X	
	Sample Name				SO	3	X	X	
	Sample Name				SO	3	X	X	
	Sample Name				SO	3	X	X	
	Trip Blank				WA	2		X	

Preservation (See Codes) (Combine as necessary)

<-- Total # of Containers

Sample Kit Prepared By: CB	Date/Time: 7/11/16	Relinquished By:	Date/Time: 7/14 1630	Received By:	Date/Time: 7-14-16 1615
Comments/Special Reporting Requirements:		Relinquished By:	Date/Time:	Received By:	Date/Time:
		Relinquished By:	Date/Time:	Received By:	Date/Time:

Cooler #'s & Temps on Receipt: C-2173 1.6°

Condition Upon Receipt: X Acceptable ___ Unacceptable

Matrix : **GW**-Groundwater **SO**-Soil **DW**-Drinking Water **SE**-Sediment **SW**-Surface Water **WW**-Wastewater **A**-Air **O**-Other (detail in comments)

Preservation: **I**-Ice **H**-HCl **N**-HNO3 **S**-H2SO4 **NO**-NaOH **O**-Other (detail in comments)

Note : All samples submitted to ENCO Labs are in accordance with the terms and conditions listed on the reverse of this form, unless prior written agreements exist